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(54) **Registration apparatus and method for imaging at variable resolutions**

(57) An imaging system and method for registering a plurality of fractionally shifted integrated scenes of an image for an imaging system using an optical system and a sensing system, said sensing system including an integer number of photosensor arrays, such as, a CCD sensor array, wherein said integer is a number N greater than or equal to 2, said photosensor arrays having optical line spacings $OLS(K+1:K)$ in reference to a leading photosensor array K and with respect to a lagging photosensor array $K+1$, for K equal to an integer from 1 to $N-1$, and wherein each of said plurality of N photosensor arrays further includes corresponding N transfer gate receiving means, so that, each of said N photosensor arrays is capable of being independently triggered to convert optical signals into electrical signals in response to a corresponding one of a plurality of transfer gate signals, $TG_i(t)$, where i is an integer from 1 to N , and wherein each one of said transfer gate signals has a periodicity T and angular frequency ω , said transfer gate signals being of the general form $TG_i(t) = TG_i(\omega(t-\tau_i))$.

In one important embodiment of the present invention, the periodic transfer gate signals are shifted in time by a delay equal to the product of the fractional lineskip and period of the transfer gate signal. The fractional lineskip is the fractional component of the optical line spacing between a leading photosensor array and a lagging photosensor array divided by the scanned pixel size.

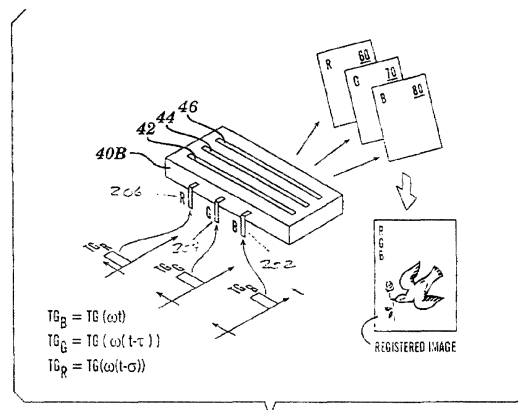


FIG. 12B



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
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The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 25 June 2002	Examiner Waern, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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